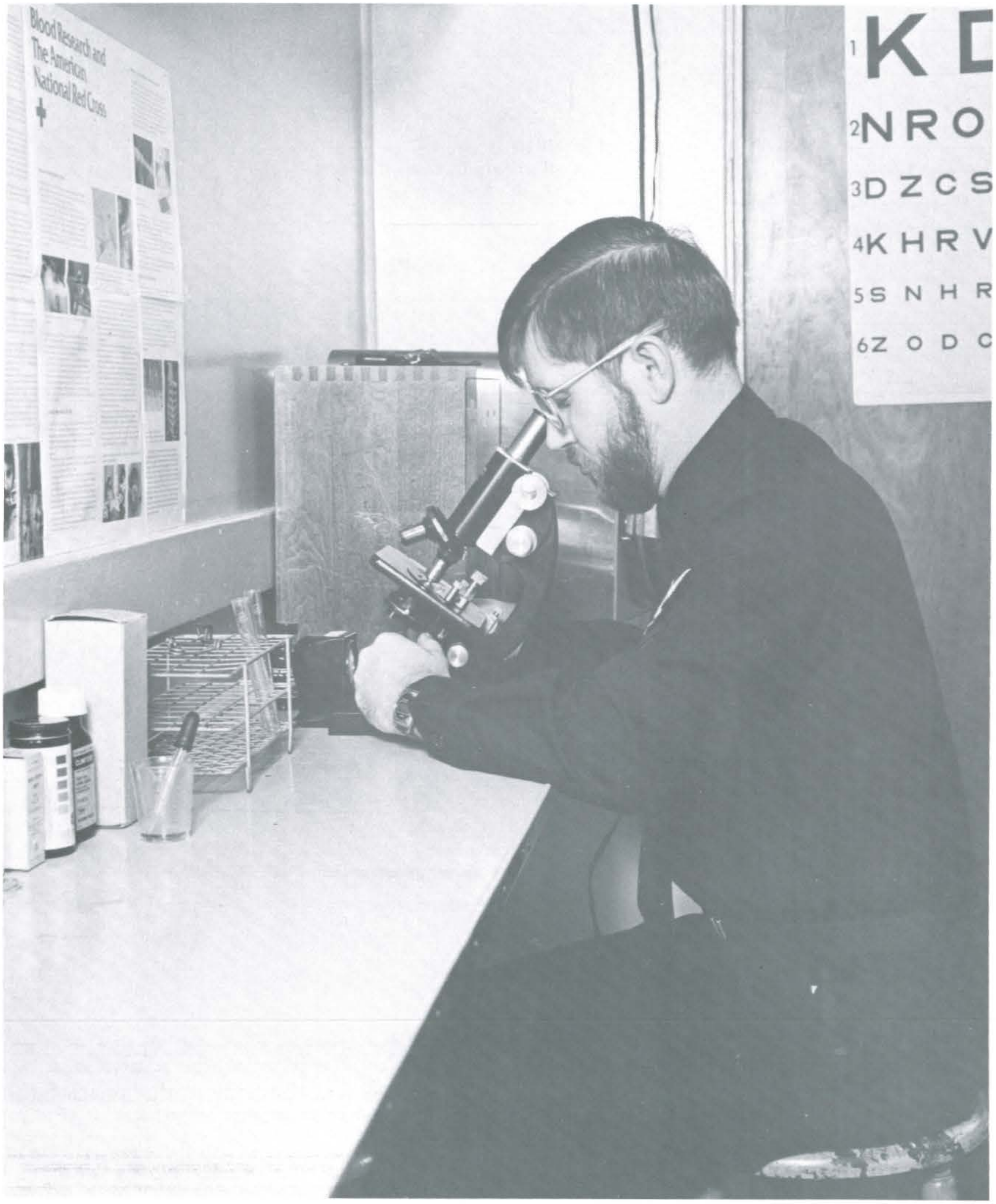
# U.S. NAVY MEDICINE

November 1982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# U.S. NAVY MEDICINE

**Vol. 73, No. 11**
**November 1982**

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**COVER:** Active duty Navy corpsmen serve with the fleet, ashore in naval medical installations and, occasionally, in the Reserve center. The Reserve center corpsman is the subject of this month's cover story on page 22. Photos by HM2 James Parmenter, USNR-R.

# Audiometric Baseline Program

LT G.W. Rovig, MSC, USNR

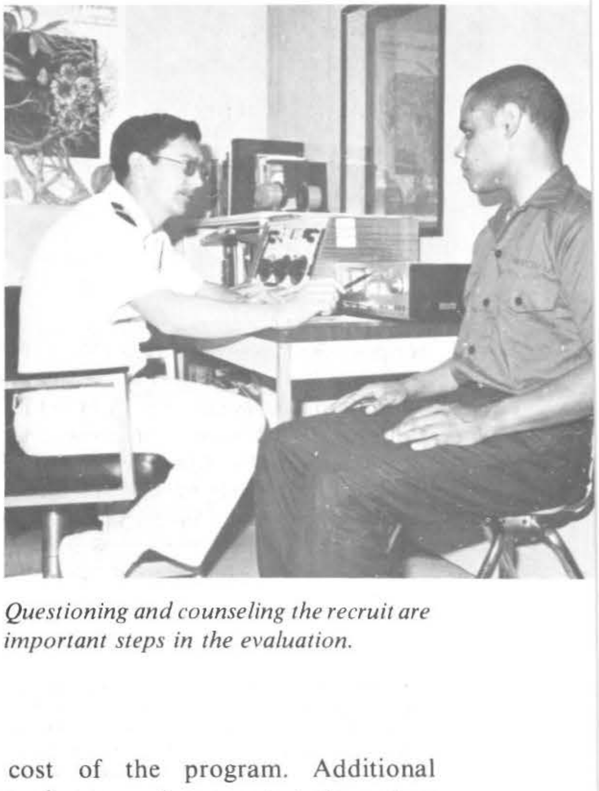
The Recruit Audiometric Baseline Program (RABP) provides a reference audiogram, a hearing conservation briefing, and an auditory fitness for duty determination on each recruit trained at the Recruit Training Command, Great Lakes, IL. This article will discuss the history, benefits, and present operation of the program.

An accurate reference audiogram for each service member exposed to noise is pivotal in both measuring the effectiveness of a hearing conservation program and compensating hearing-impaired personnel. For many years the AFEES (now Military Entrance Processing Station or MEPS) audiogram was used as the pre-exposure hearing reference and was usually the only determinant of auditory fitness for original enlistment or commission. For reasons to be discussed, the Navy's needs were not always met through this procedure.

The Great Lakes RABP was initiated as a pilot project in March 1980 to test the feasibility of supplanting the MEPS audiogram with a more current and accurate audiogram at the recruit accession level. Impetus for establishing the pilot RABP arose from concern about the adequacy of MEPS audiograms for reference purposes. While MEPS procedures and equipment are geared to a simple fitness for duty determination, the RABP was designed to determine accurately a hearing threshold at each test frequency. There are several reasons why the RABP audiogram is preferable to the one furnished by MEPS:

- Disease or hazardous noise exposure may have occurred during the interval between MEPS and RABP testing, often as long as 6 months to a year.
- An audiologist (clinically certified hearing specialist holding a master's degree in audiology) is assigned to the RABP to supervise testing on a daily basis and evaluate all hearing-impaired and difficult-to-test subjects.
- The RABP insures that the subject has been removed from hazardous noise for at least 24 to 48 hours before testing, minimizing the potential for auditory fatigue.
- Manual test procedures are immediately available to the RABP audiometric technicians for use with any subject who performs poorly on an automatic group hearing test. For a variety of reasons beyond the scope of this article, 10 to 15 percent of the adult population cannot be tested accurately without a careful manual test, which is seldom available on-site at MEPS.

Through July 1982 approximately 80,000 recruits have received audiometric baseline testing at Great Lakes. In assessing the program's cost-effectiveness, the Navy Environmental Health Center indicated that by initiating early separation of recruits who are unfit for duty due to hearing loss or chronic ear disease (only about one-half of one percent of the recruit population evaluated), the RABP provides a savings in training expense which readily pays for the cost of the program. Additional savings can be expected through a reduction of future disability compensation claims paid for hearing loss which existed before enlistment.



*Questioning and counseling the recruit are important steps in the evaluation.*

After reviewing morbidity data and a study which evaluated the comparative accuracy of MEPS and RABP procedures, the Bureau of Medicine and Surgery, Washington, DC, mandated baseline audiometric testing at each Navy and Marine Corps recruit command. In addition to RTC Great Lakes, programs are operational at RTC Orlando and MCRD Parris Island, with MCRD and RTC San Diego planning similiar programs.

Recruit audiometric testing at Great Lakes is administered by four civilian certified audiometric technicians assigned to the Hearing Con-

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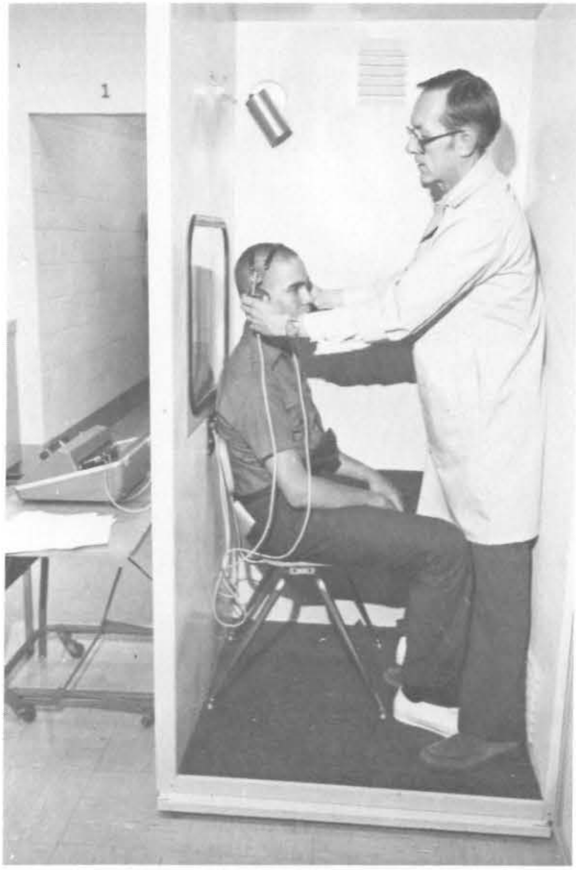
LT Rovig is Head of the Hearing Conservation Branch, Regional Occupational and Preventive Medicine Service, NRMC Great Lakes, IL 60088.

servation Branch of the Regional Occupational and Preventive Medicine Service. Supervision and audiologic consultation are provided by the Branch Head. Recruits are tested on their second day after being assembled into an 80- to 95-man company. Vision screening and optical examination/fitting are performed concurrent with hearing testing on as many as three companies per day.

Three four-man, sound-treated test suites are used for group testing. The 12 automatic audiometers in use are state-of-the-art microprocessor units programmed to follow essentially the same test procedure that a well-trained audiometric technician would use on a manual test. Current procedures and equipment allow for an hourly production of 20 to 24 audiograms per booth. Approximately three-fourths of all recruits successfully complete group automatic testing with no further procedures required. Manual testing is available through the microprocessor's manual mode or in a separate one-man booth whenever automatic procedures are inadequate to define hearing threshold. Once accurately measured, hearing thresholds are recorded on a DD 2215 reference audiogram form, standard for all branches of military service, and then placed in the individual's health record.



*Recruits are tested manually when automatic results cannot be scored.*

An average of four or five hearing-impaired or difficult-to-test recruits per company are referred to the audiologist. Recruits suspected of having active ear disease or a disqualifying hearing loss are usually evaluated by the audiologist immediately, bypassing a 2- to 4-week appointment backlog. In this manner early medical and audiologic diagnoses can be obtained and discharge or treatment initiated. Early detection of disqualifying conditions minimizes the recruit's disappointment and saves considerable training expense.

Diagnostic equipment used by the audiologist includes a manual clinical audiometer, a stereo cassette deck for pre-recorded speech reception and discrimination testing, and an electro-acoustic impedance bridge. This last instrument objectively assesses middle ear function and grossly estimates inner ear sensitivity. A half hour is allotted per consult. A pre test interview includes questions about possible familial hearing loss, previous occupational noise exposure, the presence of tinnitus (a ringing sound originating in the inner ear which often accompanies nerve damage or auditory fatigue), and prior medical problems of the ear. At the conclusion of the evaluation, recruits with a significant hearing loss are fitted with personal hearing protection. Time is invested in answering questions and explaining the physiology and implications of the hearing loss.

Career counseling is also an important aspect of the audiologist's role within the RABP. In addition to applying the relatively straightforward auditory criteria for certain enlisted ratings, he frequently advises recruits about the typical noise exposures common to the different ratings. Persons who cannot afford to lose any more hearing are advised against serving in the more noise-hazardous ratings. With the cooperation of recruit classifiers, hearing-impaired recruits can occasionally be steered toward one of the quieter ratings. A hearing-impaired but physically qualified recruit likely to receive heavy occupational noise exposure is counseled and a recommendation for double hearing protection (earplugs and earmuffs) is placed in his health record.

For a variety of reasons, recruits frequently do not provide accurate hearing results. The audiometric technicians have little difficulty recognizing potentially invalid test results, and provide reinstruction and repeat testing whenever they occur. Most recruits respond positively to an "I'm not sure you understood what I wanted you to do" approach, particularly when the implausibility of their results is pointed out to them. A few need to be referred to the audiologist, who almost invariably obtains accurate results. One determined recruit recently passed a note to the RABP staff, informing them that he was a deaf mute, and that he was not trying to get out of the Navy. After a visit to the psychologist and some discussion about calling his mother, he was able to hear and speak again.

Recruit audiometric baseline testing is an integral part of the recruit training program with significant benefits to the service member and the Navy in terms of individual health and maximization of the training investment. The program should result in a more effective use of personnel and training billets, the separation of individuals whose hearing is a danger to themselves and their shipmates, and overall improved effectiveness of the Navy's Hearing Conservation Program. ☐

U.S. Army Photos

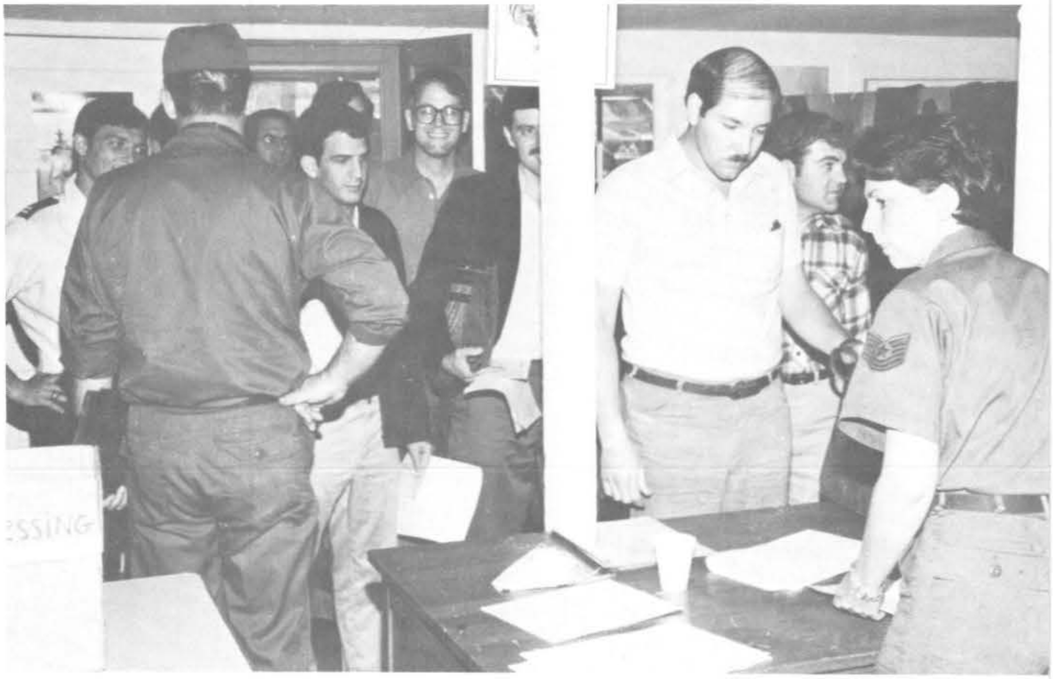
*Students arriving at C4*

# C4 Memoir*

CDR William W. Burns, MC, USN

In the event of armed conflict the Navy Medical Department will be responsible for the care of casualties sustained by the Navy and Marine Corps. The Tri-Service Combat Casualty Care Course (C4), now in its third year of operation, was instituted by the Surgeons General to train Navy, Air Force, and Army medical department personnel in the care of trauma due to enemy action as well as disease and nonbattle injury (DNBI)—combat casualties.

The C4 Task Force consists of medical department instructors, both



*Inprocessing is hectic but orderly.*

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Dr. Burns is a staff pediatrician at NARMC Pensacola FL 32512.

*For other articles on C4, see *U.S. Navy Medicine,* July and November 1980, and June 1981.

*Officers unload gear at the field site.*

officer and enlisted, from each service. The host activity is the Army Health Services Command's Academy of Health Sciences (AHS) at Fort Sam Houston, San Antonio, TX. Several other military activities in the San Antonio area actively participate. Twenty classes are now being offered each year, with 120 students attending each class.

I had the opportunity of attending C4 in August 1982. This report relates my own experience and impressions of the course for those who will follow.

## Day 1 (Friday)

We arrived from duty stations all over the United States and overseas and made our first contact with C4 at the airport military reception desk. We were met by Army bus and taken to Camp Bullis, located northwest of San Antonio, where we checked in and began to acclimatize to the heat of the Texas summer. We were assigned to squads of 10, with a Medical Service Corps TAC officer who served as squad leader and "den mother," making sure we were in the right place at the right time. Each squad had members from all services; most contained both men and women.

I was impressed throughout the course with the degree of motivation and maturity of everyone involved. We were quartered by squads in a cantonment of huts and drew field equipment (helmet, canteen, sleeping bag, web belt, gas mask, etc.). Each participant—students and instructors—wore the utility uniform at all times.

We wasted no time. That same afternoon we were taken by bus caravan to the AHS to begin the Advanced Trauma Life Support (ATLS) Course. This course, under the aegis of the American College of Surgeons, is designed for nonsurgeons who treat trauma victims within the first hour after injury. Although designed by civilians for civilians, it fits perfectly with the purposes of C4. The AHS facility is equipped with good acoustics and adequate space. Sessions continued until after dark, when we were taken back to Camp Bullis.

## Day 2 (Saturday)

Reveille came before dawn and after breakfast we again went to the AHS and continued ATLS classes and skill stations. The latter were small-group sessions in which to practice the principles learned in the lectures using both mock-ups and live models. An additional session on this day was the animal laboratory. There we practiced critical invasive procedures.

By midnight we were back at the cantonment. This night, as every night during the course, sleep was welcome and came easily. The pace of events was such that exhaustion did not interfere with learning and everyone kept their sense of humor.

## Day 3 (Sunday)

Again, reveille came before dawn and the full day was spent at the AHS continuing ATLS. During the morn-

*Litter-bearers negotiate an obstruction on the obstacle course. Below: Crossing a rope bridge gives this student something to yell about.*

ing there was time for religious services. By now the lectures and skill stations had systematically covered trauma to all areas of the body. Two-man practical examinations gave us a chance to test our decisionmaking in simulated multiple trauma situations. After the evening meal we each had the practical exam, one-on-one with an instructor. By midnight we were back at our huts.

## Day 4 (Monday)

At 0800 we took the written exam for ATLS at Camp Bullis and then began the exclusively military part of C4. Before proceeding into the field we heard briefings on military organization of medical services in combat and on cold and heat stress. The latter was particularly important, not only for our information in helping combat casualties but also in taking care of ourselves during the course itself. While in the field we were continually reminded to use our canteens, not to rely on thirst to determine the need for hydration.

We gathered our field gear, loaded it and ourselves into "deuce and a halfs" (Army 2½-ton trucks) and headed for our base camp in the field. Base Camp Posey, known as "the Ranch," had been a working ranch until purchased by the Army during World War I. Each squad set up its home-away-from-home, an Army GP-medium (general-purpose-medium) tent. These tents can be used for shelter or to house medical facilities in combat.

Lunch in the field consisted of C-rations. We learned about the suitability of this ration for the high-stress combat situation and learned soldier's tricks to improve the palatability of the meal. Breakfast and the evening meals in the field were

*Student officers examine mock casualty during assessment operation.*

*Participants take a C-rations break.*

brought in by truck and all participants dined alfresco under the trees.

There were briefings on preventive medicine and on podiatry (foot problems of troops in combat) along with squad-level instruction on medical and military matters. We were learning firsthand, for example, about problems associated with wearing the combat boot. During the evening a pair of Marines visited us. They explained from their point of view their role in military operations and how they judge medical support. We also had a preview of some military skills we would be learning later in the week.

## Day 5 (Tuesday)

Half the squads participated in the medical skills lanes and the other half in the military skills lanes (each did the other on Thursday). The medical skills were items involved in the care of casualties at the front or at battalion aid station level.

The most physically strenuous activity of the week occurred on the litter obstacle course (LOC). After instruction in proper techniques for four-man litter teams we selected volunteers (the lightest individuals) to be "casualties" and proceeded to carry them up the mountain, over and under obstacles (including low barbed wire), and back to the starting point. Later we learned the temperature that day in San Antonio reached 102 degrees. We drank water as instructed (lots of it), and there were no heat casualties among us. Never will I think lightly of the work involved in carrying patients to medical help!

There were more briefings, and we saw firsthand the importance of medical preventive measures for troops—water sanitation, waste disposal, insect vector control, etc. We rode the vehicles used for evacuation of wounded—the versatile front-line ambulance, the "gamma goat," the armored personnel carrier, the "crackerbox" ambulance, and the Army's *Huey* medical evacuation helicopter. Many of the participants reported that the helicopter ride and aerial view of the Texas countryside was one of the highlights of the course. An Army *Cobra* helicopter gunship also flew in for our inspection. At the end of the day there was a welcome opportunity to take a field shower after the heat and dust. And we learned the morale factor of such things as showers, electric generators for lights in the tents, and hot meals.

## Day 6 (Wednesday)

We had a break from our field exercises and went to Brooks Air Force Base for a day of instruction in chemical and biological warfare defense and casualty management. There were lectures and hands-on experience with the protective suits and a trip to the gas mask confidence chamber. With careful instruction beforehand, we survived tear gas with no casualties of our own. One of the most stimulating sessions was a psychiatric lecture on the subject of combat stress. We learned that both early and delayed psychiatric casualties can decimate a combat unit. Proper patient management can help conserve fighting strength and also prevent a combat casualty from becoming a lifelong psychiatric invalid. We returned to Base Camp Posey by sunset.

## Day 7 (Thursday)

The military skills lanes gave us insight into the risks and stresses on the combat soldier or marine in action. We participated in the planning and execution of an assault on a hilltop objective. A Marine unit from Camp Lejeune, NC, was present for this exercise. Using blank M-16 rounds and simulators for artillery, poison gas, and grenades, they played the "aggressors." Some served as Marine fire team leaders while we played the parts of fire team members ("liberators").

After we took the hill we moved to another area of the base to observe and practice mountaineering skills such as rope bridge crossings, rappelling, and the "slide for life" over a cliff and across a ravine. We learned about the unique problems of evacuating casualties from mountainous terrain. We accompanied the Marines on a night patrol where an ambush by "aggressors" resulted in simulated casualties and gave us a chance to practice the skills of corpsmen.

## Day 8 (Friday)

On the last day in the field there were sessions on the medical officer's role in military operations and his role as a unit commander. We learned how and where to organize and set up a field hospital, to establish a triage system for patients, and to use managerial as well as medical skills in operating a combat medical unit. Role-playing gave each of us an opportunity to try our hand at this. With C4 instructors in supporting roles, we all dealt with hypothetical situations a commander might face.

During the afternoon we had hands-on practice in triage using live patients with simulated injuries. Moulages added realism. By this time we could do a respectable job of triage and actually were delighted in our new abilities to make field medical decisions.

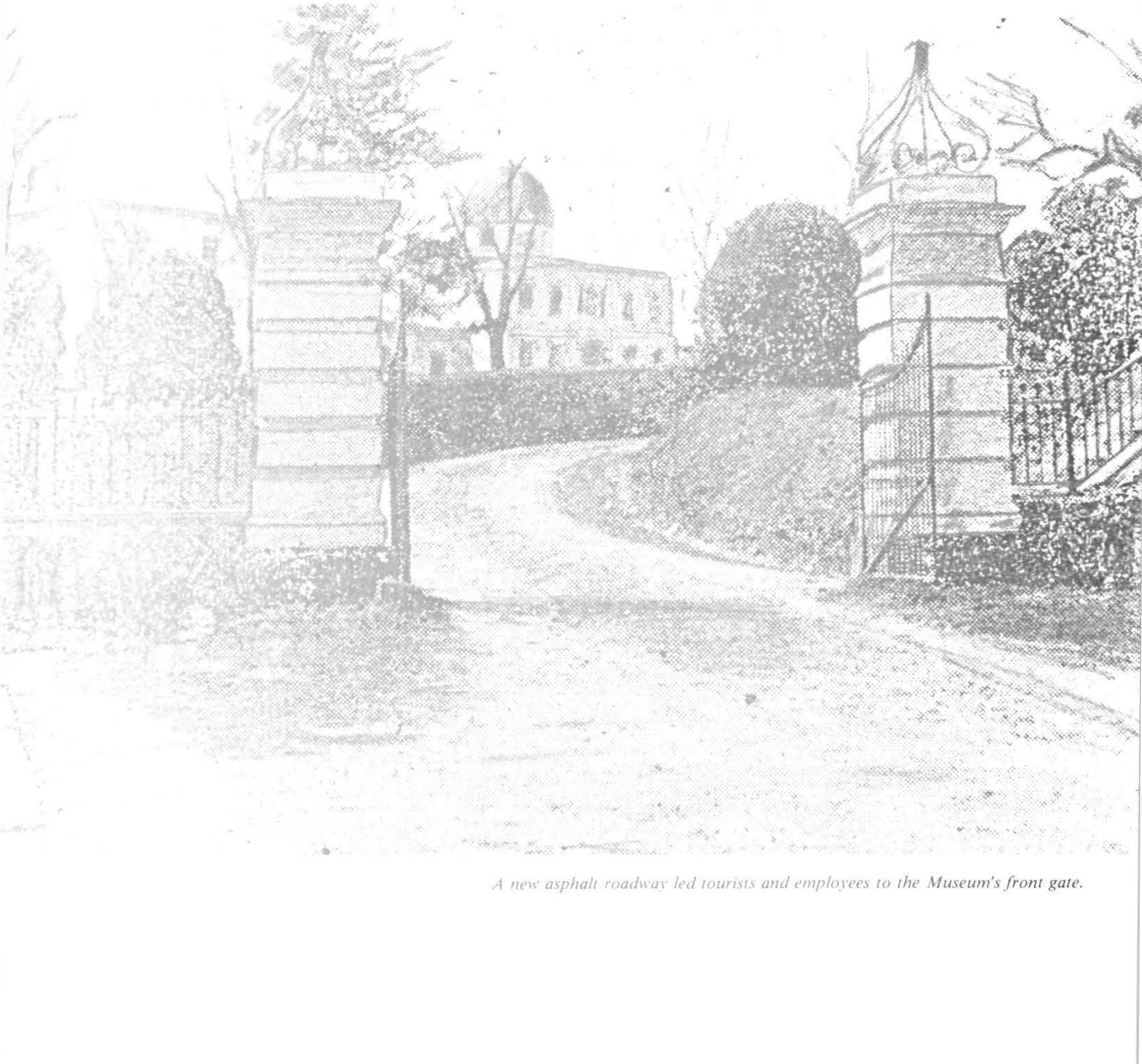
We struck camp in the late afternoon and returned to the hut cantonment for a welcome get-together with other participants, instructors, and marines over free refreshments and a steak dinner. The huts seemed extremely civilized after our week in the field!

## Day 9 (Saturday)

On the final day we returned field gear and packed for our return home. At the graduation ceremony guest speaker RADM James A. Zimbel, MC, Navy medical liaison to the Commandant of the Marine Corps, reemphasized the importance of medical readiness in our overall national defense posture. We had already learned the importance of this readiness and gained a special esprit de corps in the camaraderie of the lecture hall and the field. Back at our home commands, clinics, hospitals, or dispensaries we would have a new appreciation for our own place in the defense mission. We know that if armed conflict comes we will be ready and able to help in conserving a critical resource—our fighting troops.

A final bus caravan took us to the airport and we went our separate ways, many wearing T-shirts bearing the message, "I survived Camp Bullis." □

Columbia Historical Society



*A new asphalt roadway led tourists and employees to the Museum's front gate.*

## Home of BUMED

### a hilltop in foggy bottom

# The Naval Museum of Hygiene 1894-1902

*Part seven in a continuing series*

> There is a Naval Museum of Hygiene in Washington, established on the most historic spot in the city, containing objects of new and unique interest which have never yet come under the tourist's eye, and which are seldom inspected by the "Washington public." It is a white building, fashioned after the colonial style, with white wings on both sides, cut by arched windows and columned doors—that simple, majestic order of house framed long ago by the aristocracy of the South, but few examples of which remain around Washington to-day. It stands high on a northwest hill skirting the river near Georgetown, and a dome arising from its center above the silver poplars and maples marks it for miles in the distance as the old Naval Observatory.(*1*)

Thirteen months after being vacated Observatory Hill again had a tenant. The old building seemed to have changed little, yet outward appearances were deceiving. Transforming a laboratory designed for astronomy into a medical museum required more than cosmetic alterations.

The Naval Museum of Hygiene was already 12 years old when it came to Foggy Bottom. Its origin was a $7,700 congressional appropriation "for rent of quarters necessary for the preservation of objects already collected; transportation of contributions intended for exhibition; preparation of models and drawings to be used in the illustration of sanitary science and its progress. . ."(*2*)

As early as 1879 the Bureau of Medicine and Surgery (BUMED) had established a laboratory for investigating hygiene-related matters and began gathering the first items for what would become a museum collection. By 1882 this collection, together with a dispensary and laboratory, were housed in rented quarters at 18th and G Streets NW. The inventory grew, encouraged by the Navy Surgeon General who requested the cooperation of physicians, engineers, architects, builders, manufacturers, and others with interest in the sanitary sciences. That same year the Museum acquired the BUMED library of some 3,400 volumes. Five years later the institution moved to 1707 New York Avenue just down the street from the headquarters of the Navy Department near the White House.

As the Museum expanded and its functions as a laboratory and research center developed, BUMED lobbied for larger facilities. The old Naval Observatory seemed to fit the requirements.

## Astronomical to Medical

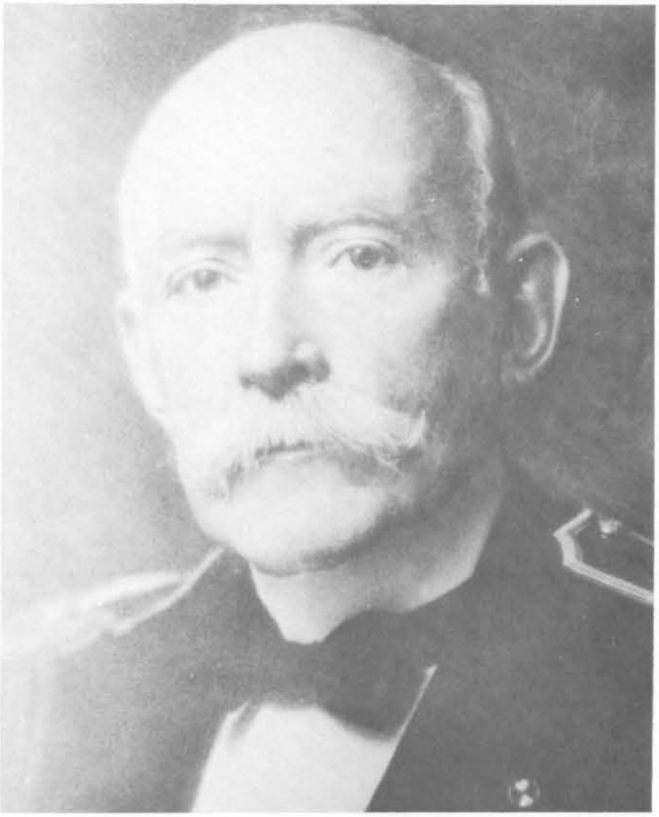
On 20 Jan 1894 the Secretary of the Navy transferred the grounds and vacant buildings to BUMED. By the end of June the Museum had moved in.

The central structure and outbuildings received a fresh coat of paint. Workmen repaired fences and spruced up the main gate. Anticipating large numbers of visitors, the Navy asked the District of Columbia Commissioners to lay an asphalt roadway from 23rd and F Streets to the Museum entrance.

More drastic changes were taking place inside. Laborers demolished the circular brick pier that had supported the 9.6-inch telescope as well as the

# Three Surgeons General

*Philip S. Wales was Surgeon General of the Navy in 1882 when the Naval Museum of Hygiene occupied a rented Washington residence.*



*James R. Tryon oversaw the institution's move to Observatory Hill in 1894.*

*William K. Van Reypen carried out the Secretary of the Navy's General Order No. 89 that changed the institution's status in 1902.*

piers for the Mural Circle, east Transit instrument, and the Transit Circle that had been housed in the west wing.*

Construction crews cut archways throughout the building, rerouted stairways, reconfigured spaces to house exhibits, papered inside walls, and installed additional plumbing in those "rooms set apart for display of house drainage, filters, and [water] closets."(*3*)

By the close of 1895 the disinfection and ventilation exhibits were in place and the first floor had been relaid with 2,500 square feet of oak parquetry and 1,200 square feet of Georgia pine, all brought to a waxed finish.(*4*)

Three of the old Observatory's second-story rooms, formerly offices for astronomers, became laboratories for chemistry, bacteriology, and photography. The chemist occupied the fourth.

The wing connecting the residence to the main building now housed displays of modern water filters and plumbing. The west Transit Circle annex became a lecture hall for "subjects connected with hygiene, and for the exhibition of bacteriological and microscopical illustrations."(*5*)

Only one of these alterations could be seen from the outside. The Great Equatorial dome on the south wing was gone, replaced by a larger rotunda crowned by a windowed cupola. Inside, that skylight illuminated a parquetry floor, oak shelving for books, and numerous tables and other furniture. A new fireplace occupied the south wall of this new library-lecture hall. For those wont to daydream, the recently installed stamped metal ceiling of intricate geometric squares gave the illusion of a marvelous pattern of early American butter molds.

Outside, gardeners began restoring the grounds to their former grandeur, but the hurricane of 29-30 Sept 1896 interrupted their work and uprooted many of the older trees planted during the Observatory's early years.*

*Detail of the stamped metal ceiling in the Museum's library-lecture hall, formerly the Great Equatorial rotunda. The ceiling is now in BUMED's Hospital Corps Division.*

Photo by the Editor

Almost as the rains and winds departed, workmen began clearing the ground in front and at the sides of the main building. Downed trees were removed and those that remained were trimmed back. The ground was plowed, graded, and planted in grass. Two years later there were more improvements, including a concrete sidewalk in front of the main building and 30 new ornamental trees.

## Specimens of Every Nature and Variety

The Museum was not merely to be a repository for exhibits and a clearinghouse for medical and nonmedical artifacts. It was refining its character as a working institution. During the first year on Observatory Hill, the Museum conducted many analyses and began issuing detailed reports on:

- Pathological specimens of every nature and variety.
- Water from the Potomac, Port Royal, SC, and several places in New England.
- Medicines frequently used by the Navy.
- Specimens of sandstone and granite "made at the request of the Bureau of Yards and Docks to determine the fitness of the samples to be used in building dry docks."(*7*)

The Museum was fast becoming a pioneer in environmental and occupational medicine. In addition to checking the purity of water systems aboard naval vessels and at shore installations, its investigators conducted inspections of work spaces in government buildings. One such survey found the sub-basement of the State, War, and Navy building unfit for workers because of excessive temperatures and dangerous levels of carbonic acid and ammonia.(*8*)

Another investigation conducted for the Association of Official Agricultural Chemists sought to

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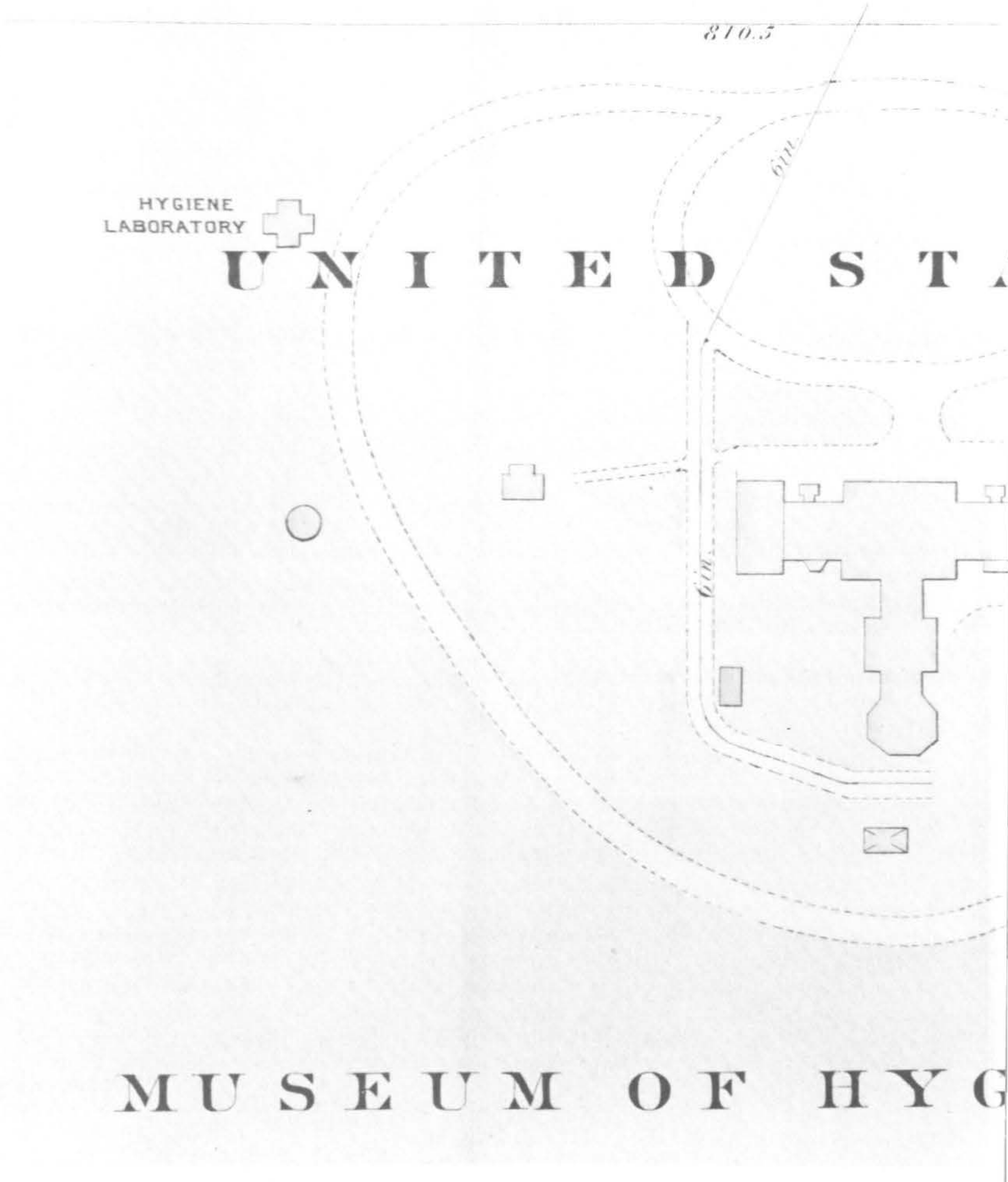
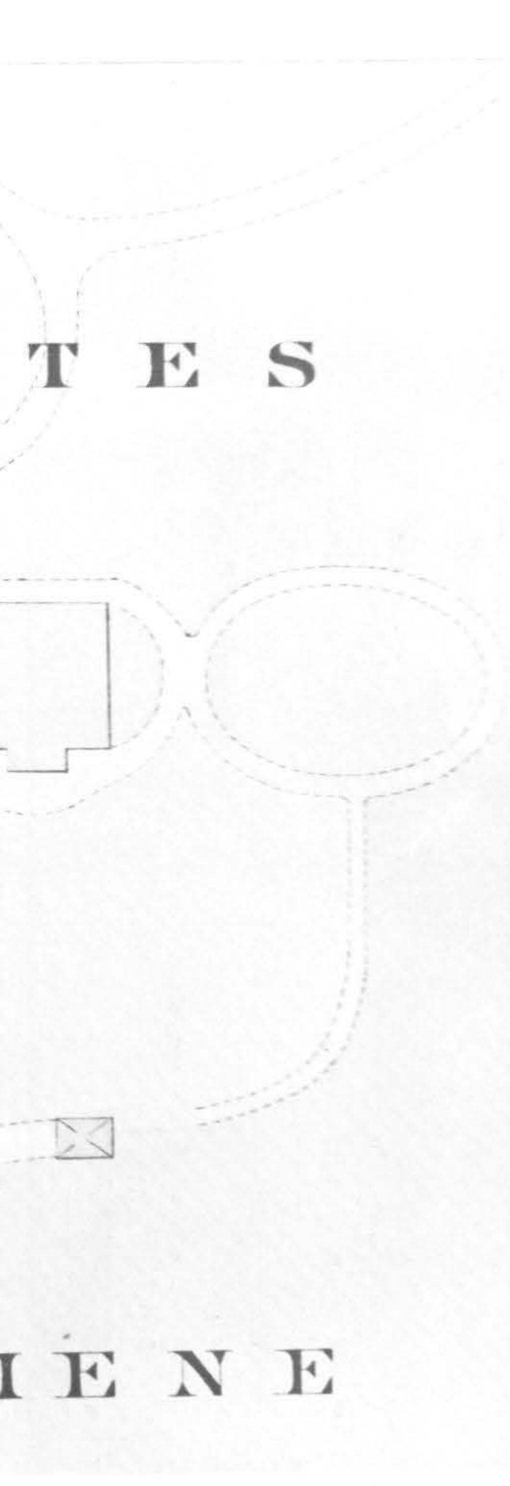
*Remnants of the Mural Circle and east Transit piers are still visible in the basement of Building Two—BUMED.

*The storm's fury destroyed thousands of the city's shade trees, collapsed buildings, downed telegraph lines, and wrecked boats, yachts, and steam launches along the riverfront. Damage was estimated at $1/2 million.(*6*)

Columbia Historical Society



*In 1901 the Navy transferred 5 acres of the 19-acre reservation to the Department of the Treasury to be used by the Marine-Hospital Service for the erection of an experimental laboratory. The lab appears as a cross at the upper left.*



analyze fusel oil, a component of distilled spirits.*

By 1898 the upstairs laboratories of the main building were testing disinfectants, vaccine virus quality, the purity of catgut suture material, and pathological specimens. A year later gum-elastic catheters were tested to determine their durability in the face of heat and disinfectant solutions. Technicians peered through microscopes at diphtheria and tuberculosis bacilli and malarial parasites. Tumors were sectioned and examined to determine their malignancy.(*9*) In 1900 alone 537 chemical, bacteriological, and microscopic examinations were performed for the purpose of clinical diagnosis. Other tests evaluated preserved eggs and beef purchased as ships' rations. Analyses of two commercial milk preservatives found 4 percent formaldehyde in each.(*10*)

As the Museum's testing expanded so did its collection. The inventory was beginning to take on a somewhat bizarre if not morbid quality exemplified by:

> . . . a rather miscellaneous assortment, from Belgian and Chinese shoes, Korean hats, Mexican sandals, down to all sorts and kinds of food, shells, cots, hospital ships, hospital camps, crematories, and water pipes.
>
> Under the head of architecture there are numbers of interesting exhibits, the models of barracks, wards, and a United States Army general hospital being of especial value. There are innumerable plans and models for the construction of schools, colleges, asylums, almshouses, reformatories, factories, laboratories, hospitals, and ships, and for their proper ventilation, drainage, and illumination.
>
> The exhibits of vaults, morgues, mortuaries, cremation, and all methods and customs for the burial of the dead are also unique and interesting, among them being an exact reproduction in miniature of the far-famed "Tower of Silence," just outside the city of Bombay, where the vultures flock by the thousands for their feast on death. A model of the picturesque crematory at Mount Olivet Cemetery, Williamsburg, [Brooklyn], N.Y., is also on exhibition, and that hideous engine, "Sieman's furnace," as well as burglar-proof vaults, metallic burial caskets, Alaskan Indian caskets, and old Roman cinerary urns.(*11*)

## Transition

The turn of the century saw increasing emphasis on the Museum's scientific, testing, and educational functions. The collection continued to draw the curious and act as a focus for the many lectures and symposia held at the facility. The laboratories, among the best anywhere, were seen by some as the core of what soon would become a medical school to train Navy physicians in the ways of military medicine.

General Order No. 89 issued by the Secretary of the Navy on 27 May 1902 reflected what had already become a *fait accompli.* The Museum would now be known as the U.S. Naval Museum of Hygiene and Medical School.* —JKH

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(To be continued in the January issue)

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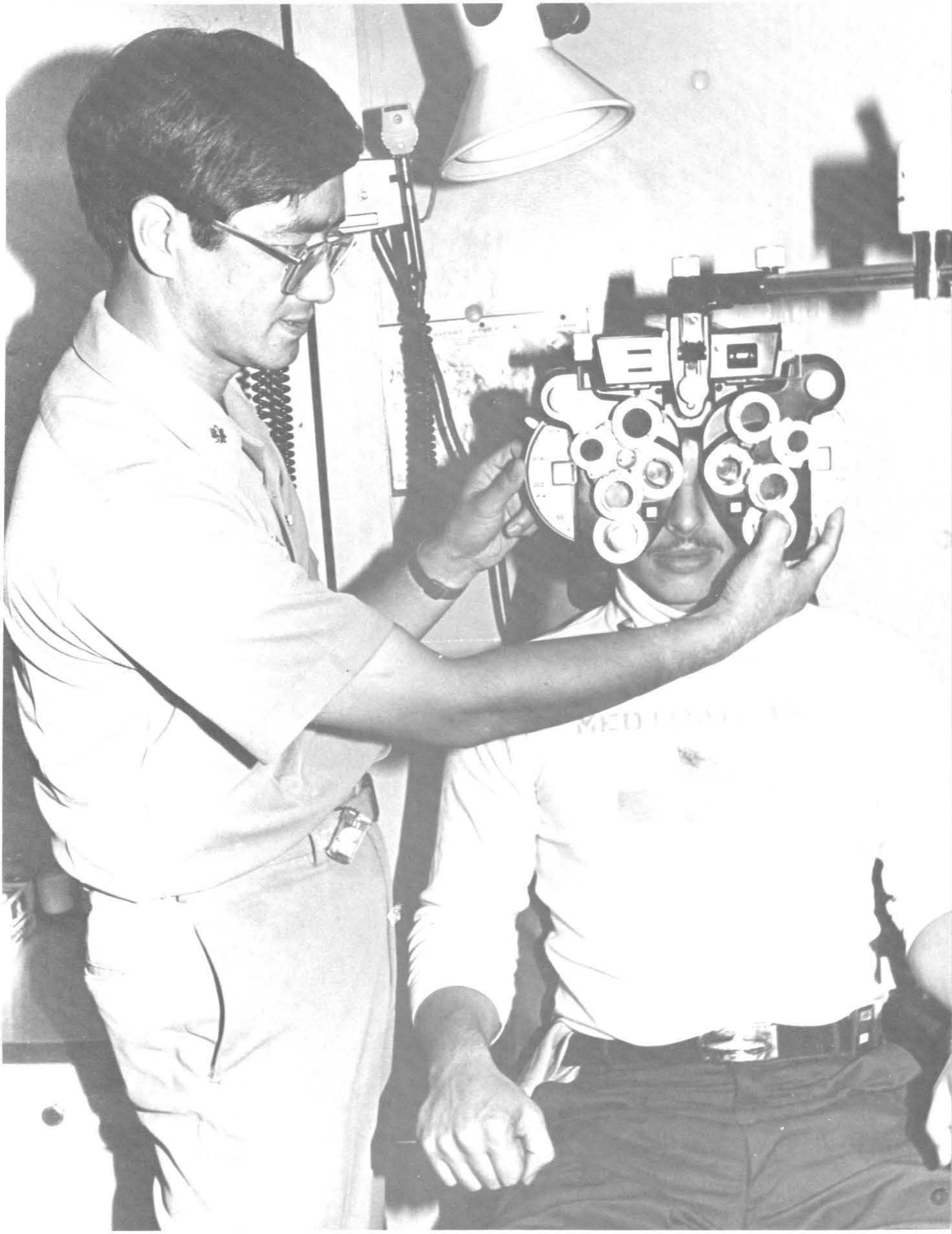
*Fusel oil is an acrid, oily, poisonous substance found in grain alcohol that has undergone inadequate distillation. Most authorities once thought alcohol's ill effect on the human body was due to the fusel oil it contained.

*The Museum was disestablished in 1905 and the exhibit collection transferred to the National Museum (Smithsonian Institution).



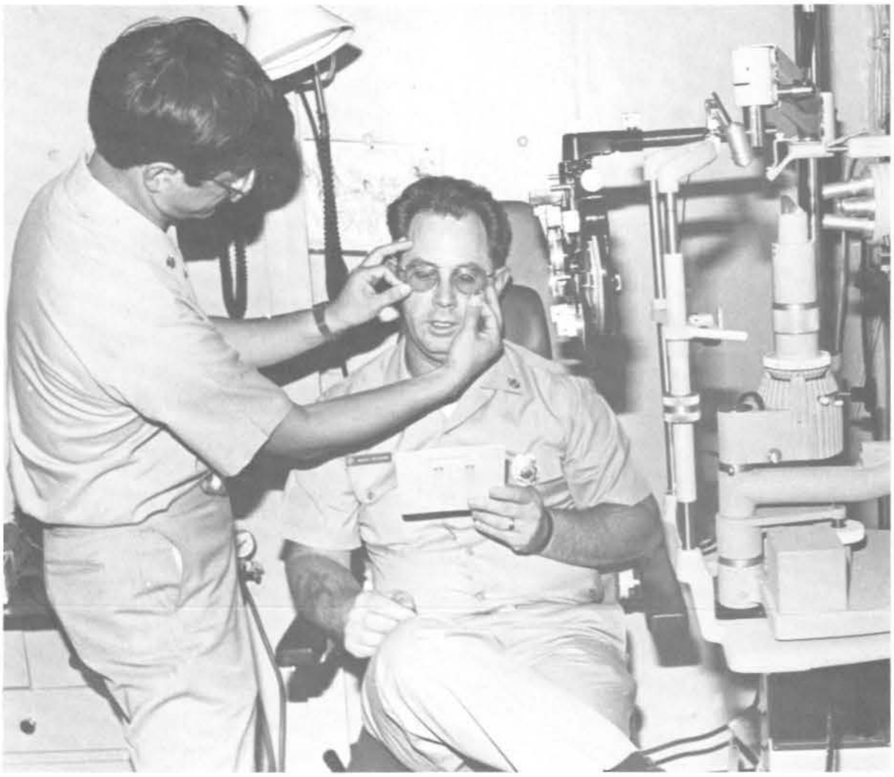
*CDR Eng conducts a vision analysis and refraction . . .*

# Vision Care Aboard USS *Lexington*

CDR J.F. Graves, MC, USNR
CDR W.G. Eng, MSC, USNR-R

The senior medical officer (SMO) has many responsibilities aboard an aircraft carrier, but his ultimate goal is clear—keeping the ship's crew healthy to assure maximum productivity and to enhance overall operational readiness in the fleet. One area of medicine that should get prime attention on every carrier is vision care. Yet, this important facet of shipboard health care is frequently overlooked or compromised. The purpose of this article is to share with other shipboard medical departments a successful vision care program that was conducted aboard USS *Lexington* (AVT-16).

*Lexington's* primary mission is to conduct carrier qualification landings and launches for student and fleet naval aviators. Homeported at Naval Air Station, Pensacola, FL, the *"Lex"* regularly sails into the Gulf of Mexico for operations originating at Pensacola, and Corpus Christi, TX. Of particular distinction is the fact that *Lexington* has accomplished a world record 420,000 arrested carrier landings, well over 100,000 more than any other aircraft carrier.



*. . . and checks nearpoint measurements for bifocal correction on* Lexington's *medical department personnel.*

## Vision Care Program

The precision of work for most carrier duties requires excellent eyesight. Certain aviation personnel aboard, such as aviators, flight controllers, flight deck directors, and others, require periodic eye examinations. Moreover, many shipboard personnel working in eye-hazardous work areas may also need prescription safety glasses.

Early detection and correction of eye and vision problems is the key for the maintenance of eye health and good vision. *Lexington's* Medical Department developed a vision care program with the following objectives:

- To establish an eye department capable of providing basic ophthalmic services aboard the carrier when underway.
- To identify undetected eye and vision problems through a vision screening program.
- To comply with required visual

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CDR Graves is Flight Surgeon and Senior Medical Officer aboard USS *Lexington* (AVT-16), homeported in Pensacola, FL. CDR Eng is a naval reservist with a private practice of optometry in El Sobrante, CA.

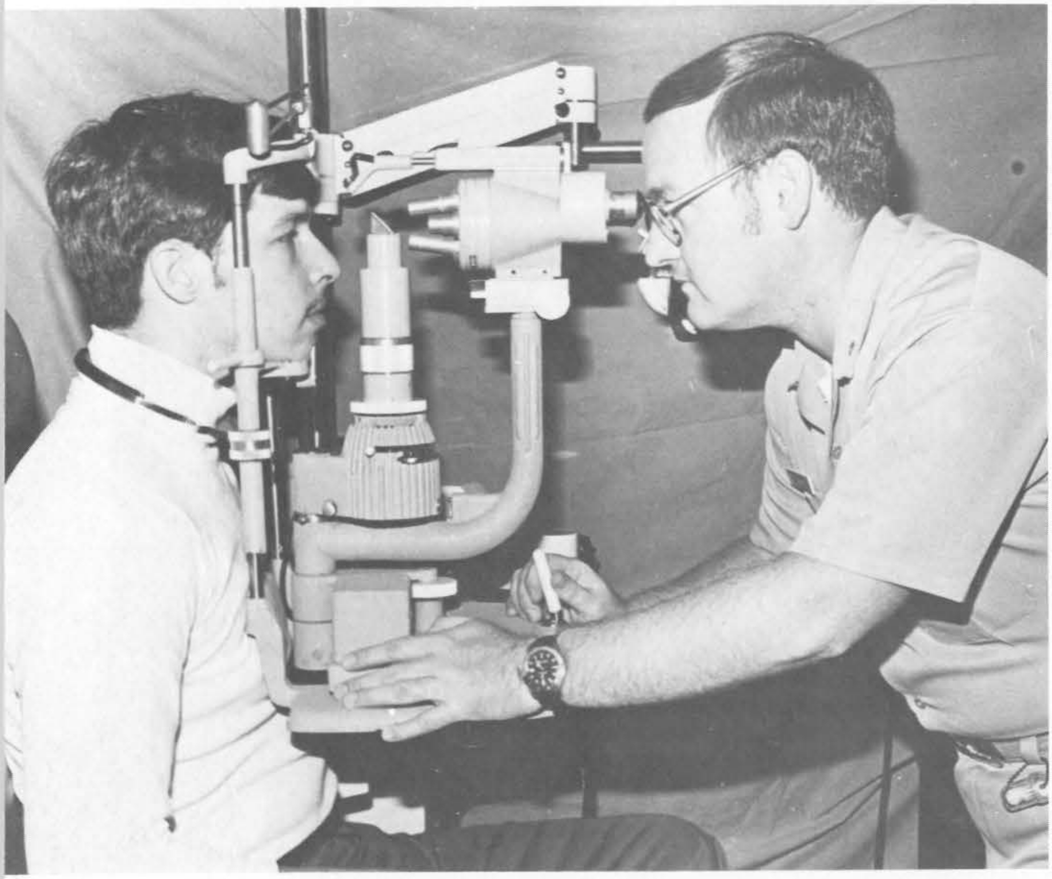
standards set for aviation and shipboard personnel.

- To reduce the incidence of eye injuries through an industrial eye safety program.

On most carriers the eye care department is part of the EENT Department. In order to place greater emphasis on vision care the senior medical officer established a separate department for eye care alone. Setting up this department was very beneficial in meeting established goals and helped provide effective vision care to the crew. It also created eye care awareness for medical department personnel and the ship's crewmembers. A hospital corpsman who conducted aviation physical examinations was also given the responsibilities as the ophthalmic technician in charge of the eye department. This dual responsibility was very appropriate since a significant portion of the aviation flight physical involved vision.

## RESMOP

During the September 1982 underway period, a Naval Reserve optometrist was assigned to the carrier under TEMAC orders for 2 weeks. The MSC officer was a voluntary participant in the Reserve Medical Officer Program (RESMOP), administered by the Bureau of Medicine and Surgery. This program was designed to meet the immediate and critical Navy-wide shortage of doctors on a short term basis. The officer's assignment was to assist with the organization of the eye department and to consult with the senior medical officer in developing a comprehensive vision care program for *Lexington*. The optometrist had previous experience with vision care on aircraft carriers and was familiar with the aviation community and its visual standards.



*CDR Graves examines patient's cornea for foreign body with biomicroscope.*

## Orientation

Prior to the optometrist's arrival, personnel were informed of the vision care program through department head meetings and notices in the Plan of the Day. *Lexington*'s executive staff strongly supported both the spirit and intent of the program. The optometrist made a survey of equipment and material necessary to operate the eye department while afloat. Through the cooperation of the Ophthalmology Department at Naval Aerospace and Regional Medical Center, Pensacola, FL, all necessary ophthalmic equipment and accessories were expediiously procured.

Time was devoted on board to reviewing policies and developing operating procedures for the eye department. The optometrist provided instructions and training on every aspect of the department to the hospital corpsman assigned as the ophthalmic technician, including ophthalmic dispensing, frame repairs, administering the armed forces vision tester (AFVT), and duplication and ordering of eyeglass prescriptions. This training was extremely important since the corpsman would be the primary person working in the eye department after the optometrist's departure. A series of inservice lectures on eye safety and vision care were specially planned and presented to the medical department personnel.

## Vision Care Services

The optometrist and two hospital corpsmen conducted a vision screening program in the evening hours with the optometrist supervising the testing. The screening attempted to identify crewmembers with eye and vision problems and also helped to determine a priority list for giving eye examination appointments with the optometrist. Appointments for complete eye examinations were scheduled daily during the normal sickbay hours of operation (0730-1700). At least 20 persons were screened during each hour of vision screening. Many crewmembers required only reordering eyeglasses or minor repairs to their glasses. Others needed referral to the shipboard physicians or to the ophthalmologist at the Naval Aerospace and Regional Medical Center.

The vision screening also provided an excellent opportunity to promote eye safety among crewmembers. While personnel waited for their turn to be screened, they received pertinent information about eye protection for common eye hazards encountered on the ship. Moreover, the timing of this vision screening and eye safety promotion effort was most appropriate before the annual Selective Restricted Activity (SRA) for repairs and maintenance. The vision care program undoubtedly served to increase the awareness of eye hazards aboard *Lexington*. During the 90-day SRA period a year earlier, there were more than 300 eye-related accidents that were reported aboard the carrier.

### Summary

During this vision care program conducted over a 2-week period, more than 300 persons had an eye test; more than 225 required referral for further care; more than 150 received an on board comprehensive eye examination (which often includes biomicroscopic examinations and cycloplegic refractions when required); and more than 125 pairs of prescription eyeglasses were ordered.

From these impressive statistics, the cost-effectiveness to the Navy of having the optometrist aboard can be seen. It should be noted that shipboard personnel requiring professional eye care services would normally go to the Naval Air Station Dispensary or the Naval Aerospace and Regional Medical Center, Pensacola. An eye examination appointment could take from several weeks to a month at one of these shore facilities and take valuable time from shipboard duties.

The vision care program aboard USS *Lexington* can be adapted to other aircraft carriers with little or no modification. The appreciation for such a program aboard the ship was very evident as shown by the support and gratitude of the crew. □

## Scholars' Scuttlebutt

### ACDUTRA

Active Duty for Training (ACDUTRA) orders for the FY83 Armed Forces Health Professions Scholarship Program (AFHPSP) are now being processed by the Naval Health Sciences Education and Training Command (HSETC). If you have not returned your ACDUTRA request card, please do so as soon as possible. Your orders will not be issued for school or travel until you submit your request to HSETC with the supporting documentation required. Be specific regarding the dates you desire for reporting to and detaching from your ACDUTRA site.

When you are accepted by more than one naval regional medical center for a clinical clerkship, please forward only the acceptance letter to HSETC for the one clerkship you choose to attend. Notify the other centers that you are declining their clerkship positions so that other students may have the opportunity to be accepted to vacant clerkships.

If your clerkship is scheduled for less than 45 days, you must report to the Naval Reserve Center or another naval facility closest to your school for the remaining days of the ACDUTRA period. Specify whether you require this school portion of the 45 days before or after the clerkship. Please direct all questions regarding your ACDUTRA assignments to Commanding Officer, Naval Health Sciences Education and Training Command (Code 14), Naval Medical Command, National Capital Region, Bethesda, MD 20814.

### Navy Policy Concerning Illegal Drugs

Illegal possession, use, and distribution of drugs and drug paraphernalia are not tolerated at any time ashore, afloat, on/off duty, or on/off base. It is against the law and violates Navy regulations. The illegal use of drugs constitutes a serious breach of discipline which undermines the very fiber of combat readiness.

Commanders will use every available legal means to identify individuals involved with illegal drugs, i.e., Naval Investigative Service, drug detection dogs, health and welfare inspections, random vehicle searches, and urinalysis screening procedures.

Drug trafficking is exceptionally detrimental to the health and welfare of the military community. Any use or possession of illegal drugs by leaders in the Navy is reprehensible. Consequently, commissioned officers, chief petty officers, and warrant officers who use or possess illegal drugs shall be processed for separation from the naval service and this action can result in discharge under other than honorable conditions.

NOTE: This is an excerpt from the Chief of Naval Operations message, 231734Z December 1981.

# Iliotibial Band Friction Syndrome: A New Running Injury

LCDR W.C. Moore, NC, USN

With the increased popularity of long-distance running in the Navy/Marine Corps community, a new injury is beginning to be seen in emergency rooms and outpatient clinics. The syndrome was first described by Renne in 1975, although it was mentioned, but not fully appreciated, as early as 1961.(*1*)

The diagnosis of iliotibial band friction syndrome (ITBFS) is suggested by pain on the lateral aspect of the knee in long-distance runners.(*2*) It is an overuse syndrome caused by friction between the iliotibial band and the lateral femoral epicondyle during flexion and extension of the knee.* The syndrome has received little mention from the medical experts in the running literature. Sheehan and Subotnick, two leading medical running experts, have failed to mention ITBFS as a cause of "runner's knee," but they have elected to classify "runner's knee" as being the result of chondromalacia.(*3*) This is a common error made by primary care practitioners; if the knee does not lock, click, or swell, the diagnosis is frequently chondromalacia.

The pain of ITBFS is usually poorly localized and commonly extends down the side of the knee to below the joint line. In severe cases the pain prevents walking with a normal gait.(*4*) "The ITBFS usually affects only continuous running .... The syndrome is aggravated by smooth, even-paced running . . . . It usually results from a training error, primarily excessive distances during a single run or a rapid increase in weekly training. Runners who consistently run on the same side of a pitched road develop ITBFS on the down side leg."(*5*)

## Diagnosis

Three tests have been described to aid in the diagnosis of ITBFS. "In 1975 Renne reproduced the pain of ITBFS by having the patient support all his weight on the affected leg with the knee in 30° to 40° flexion. This maneuver brings the iliotibial band into contact with the prominence of the lateral femoral epicondyle. In 1979 Noble described the compression test for ITBFS. With the patient supine, the knee is flexed to 90° and pressure is applied to the lateral femoral epicondyle or 1 to 2 cm proximal to it. The knee is gradually extended, and at 30° of flexion the patient with ITBFS will complain of severe pain over the lateral femoral epicondyle that is the same pain he gets when running."(*6*)

"If the previous diagnostic tests are positive, Ober's test for iliotibial band tightness should be performed. The patient lies on his side with the thigh of the unaffected leg next to the table and flexed enough to obliterate any lumbar lordosis. The affected knee is then grasped tightly with one hand while the pelvis is stabilized by the other. Then the hip is abducted widely and extended so the thigh is in a line with the body to catch the iliotibial band on the greater trochanter, maximizing its excursion. The leg is then brought toward the table in adduction. If any iliotibial band shortening is present, the hip will remain passively abducted in direct proportion to the amount of shortening."(*7*)

## Treatment

The treatment of ITBFS ranges from abstaining from running to surgery. Most authors agree that there is a satisfactory form of treatment somewhere between these extremes. Orava has suggested changes in training by varying the tempo of a run and by avoiding even-paced jogging. He also found that rest from training together with oral anti-inflammatory agents, topical vasodilating agents, and a gradual increase in training

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*This syndrome may also occur at the proximal end of the iliotibial band.

proved to be satisfactory in many cases.(*8*) Clive Noble has suggested that steroid injections may have to be given at 2-week intervals for chronic conditions. If the steroids fail, surgery may be required.(*9*) Bates Noble suggests the use of a lateral sole wedge and stretching exercises when Ober's test is positive.(*10*)

## Patient Report

I have personally known the frustrations of ITBFS because I have iliotibial band tightness and have had ITBFS in the past. While on a 20-mile training run in October 1979, I felt the classic symptoms of ITBFS at about the 17-mile mark. I ignored the pain until the next morning when I noticed that my gait was altered and I was unable to walk up or down the stairs. I consulted with several physicians, including orthopedic surgeons, who suggested a 10-day course of 10 aspirin grains every 6 hours with total abstention from running. After following their advice I began running again but was only able to run ½ mile before the pain appeared. The treatment was repeated along with the use of an exercise bike for a period of 10 months with the same results—pain after ½ mile. No professional was able to offer me any other advice, nor could I find any help in the running literature. It seems as though no one had heard of ITBFS.

I bought a pair of neutral shoes. For 3 months before my injury I had run in shoes with a built-in varus wedge. These shoes had been hailed as the most protective on the market. In addition, I inserted a lateral wedge in my left shoe, and I stopped running on pitched surfaces. My symptoms of ITBFS disappeared and I was able to continue training for marathons. I now run pain-free as long as I replace my homemade lateral wedge every 2 to 3 weeks.

## Summary

The ITBFS, a syndrome that has affected a significant number of long-distance runners, has been little appreciated, certainly in the running literature. With the current emphasis on physical fitness in the Navy/Marine Corps community, and with more and more people becoming involved in long-distance running, iliotibial band friction syndrome injuries will become more common. An assessment of the runner's training habits, running shoes, and foot structure will assist the primary practitioner in making a diagnosis. Iliotibial band friction syndrome is easily diagnosed, treated, and prevented. Primary practitioners should familiarize themselves with the stretching exercises outlined by Bates Noble in *The Physician and Sportsmedicine*, April 1982. In addition, a podiatrist can be very helpful in diagnosing foot deformities and in making lateral wedges.

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# Haloperidol as an Analgesic in Cancer Patients

LT Paul F. Giannandrea, MC, USNR

Pain is the nemesis of those afflicted with cancer. Despite multiple classes of potent analgesic agents, many cancer patients during the course of their disease still suffer from chronic pain of variable severity.*(2)* The physician's role in treating these people is often a frustrating one.

Maltbie and Cavenar*(3)* have been the standard bearers in psychiatry for promoting the use of butyrophenones in various chronic pain syndromes. However, the literature is not extensive and only received brief mention in various reviews on pain treatment.*(1,4,5)*

This report suggests the inclusion of haloperidol in the pain management of terminally ill cancer patients. Space constraints demand the selection of one report from the series of patients treated where the drug was found to be useful. It contains the following salient features:

- Their marked and relatively fast response to treatment (within 1 week of initiation) allowed for their early discharge from the hospital with an increased quality of life.
- An indirect presentation to neuropsychiatric consultation.
- The presence of dose-limiting side effects to conventional analgesics.
- The low dose response and projected short term treatment duration necessary.
- The failure of previous treatment to provide satisfactory pain relief.

## Patient Report

Mrs. A is a 78-year-old Caucasian woman diagnosed with adenocarcinoma of the lung, which was metastatic to bone. She initially presented with back, right shoulder, and left hip pain requiring chemotherapy and local radiation therapy, the latter for pain relief. Over the ensuing 7 months she continued to experience moderate levels of pain.

She was managed at home with methadone 10 mg p.o., t.i.d. Other multiple analgesic regimens including amitriptyline, numerous opiates and opiate derivatives, and amphetamine enhancement were tried without success. All these failed to provide significant relief. However, the methadone allowed her to function with tolerable levels of pain.

She was admitted to the hospital in July 1981 when she developed new pain in the left shoulder region associated with metastatic lesions by X-ray. Only a regimen of morphine 10 mg, q.s., q.q.h. in addition to the methadone allowed for significant pain relief. She was immediately started on local radiation therapy. On the third hospital day our service was consulted because of mental status changes consisting of disorientation, altered level of consciousness, and various cognitive deficits. On multiple evaluations she was found to be an almost totally bedridden woman whose mental status exam widely fluctuated in relationship to the timing of her analgesic medication. Her mobility was restricted by severe left hip and shoulder pain alternating with the sedation resulting from her medications. There was no evidence of Central Nervous System (CNS) involvement from her cancer. No other etiology for her clinical condition was found and indeed these symptoms cleared shortly after her morphine was discontinued. Predictably, the severe pain returned. Haloperidol was started on the fifth hospital day. She ultimately received 10 mg p.o., b.i.d. By day seven she experienced near total pain relief and was able to ambulate without problem. She was able to be discharged to finish her course of radiation therapy as an outpatient. She tolerated a reduction of her methadone to 10 mg q.d. and had no return of her delerium or other mental status aberrations.

## Discussion

The treatment of pain in the terminally ill cancer patient is a subject grossly underrepresented in the medical literature. This deficit is striking when one considers the pervasiveness of the problem.

Many difficulties are encountered when using narcotics for effective pain relief in these patients. The most prevalent are: (1) their tendency to cause respiratory depression which is additive to the effect of other CNS sedating drugs often used in these patients; (2) they may dramatically affect the patient's mental status,

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especially in the elderly, causing delirium, hallucinations, excessive sedation, and altered behavior; and (3) they notoriously cause psychological and physiological addiction as well as tolerance, creating the need for increasing doses of the drug which in turn places the patient at an increased risk for (1) and (2). Also, very high doses often require inpatient evaluation and monitoring which places the patient at risk for a whole gamut of nosocomial problems.

As a result, many alternative psychotropic drugs have been tried as either adjuncts to narcotic agents or alone, e.g., tricyclic antidepressants, amphetamines, and trytophan.*(6,7,8)* These have had varied success. Maltbie and Cavenar*(3)* suggested using haloperidol in various types of chronic pain patients. They reported good results using it alone or in combination with opiates. The effective dosage ranged from 20 to 40 mg/d. in divided dosage. Other have reported cases in support of their hypothesis.*(9,10)*

The mechanism of analgesic action of butyrophenones remains unclear at this time. However, as a result of Snyder's innovative work on endogenous opiates and their receptors in the brain, research on the influence of butyrophenones on those receptors has been made possible.*(11)* Creese, in 1975, using the inhibition of $^3$H-naloxone binding in rat brain homogenates, demonstrated a substantial affinity of some butyrophenones for the opiate receptor.*(12)* Indeed, two, benperidol and pimozide, demonstrated a greater affinity to these receptors than either meperidine or propoxyphene. The binding plots of these agents were paralleled to such plots for opiates suggesting mutual interaction at a single receptor, thus accounting for the clinical data suggesting a potentiation of narcotics by these agents.

This patient report exemplifies those characteristics of a theoretically ideal candidate using this class of drugs. According to recent reviews,*(13,14)* because a low dose range has been shown to be effective for significant analgesia and the short duration of use implicit with these patients, they are at least risk for incurring the single potentially irreversible side effect of this agent, namely tardive dyskinesia. Haloperidol offers them a distinct advantage without a simultaneous high risk for serious side effects. Other adverse effects such as pseudoparkinsonism, dystonic reactions, and akathisia all have shown to be relatively easy to prevent or treat.

The report also exemplifies an important though unfortunate feature in managing intractable pain. Patients often come to neuropsychiatry consultation through indirect means, usually as a result of symptoms secondary to the tumor process or secondary to adverse reactions to the heretofore ineffective analgesic regimen. This highlights the problem of this subject being underrepresented in the medical literature. Characteristically, those who treat these patients are often uninformed about haloperidol and generally have the least experience using this class of drugs. As a result, patients with the most to gain are not treated with it. Hopefully, with continued use in selective patient populations, haloperidol will be added to the current armamentarium of analgesic agents.

## Conclusion

Care of the terminally ill cancer patient is one of the most difficult and emotionally trying endeavors that clinicians face. Despite highly successful treatment modalities for many cancers, pain remains the nemesis of these patients and its treatment represents an area where physicians can help significantly. Haloperidol has a role in the treatment of pain in cancer patients whether alone or in combination with more conventional analgesics.

In selective cancer patients, especially where there exists a dose-limiting factor to using opiates, haloperidol in doses of 20 to 40 mg q.d. can be most effective as an analgesic and can greatly increase their quality of life. Further research including controlled studies on large patient populations is suggested to evaluate more completely and describe the usefulness of the butyrophenones as analgesic agents.

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# The Reserve Center Corpsman Does It All

CAPT Morris D. Kerstein, MC, USNR-R
CDR Robert E. Campbell, MSC, USN
HMCS John R. Burch, USNR-R

The active duty support corpsman serving in a Reserve center has a complex mission. Because of the decreasing number of TAR (training and administration of reserves) corpsmen, fleet personnel rotate through Reserve centers for their shore duty assignments. Responsibilities and relationships are very different from those in the fleet, and often the transition can be a frustrating, nonproductive experience.

Fleet corpsmen deal more with everyday tasks such as dispensing medicine and providing medical services. Generally, their shipmates easily identify with them, and they achieve special status.

In the Reserve center medical department ashore there is little or no need for medical services as is needed at sea. Rather, instruction, inspection, record-keeping, and responsibility for these records is the order of the day. Local problems are primarily administrative. A major function of the Reserve center corpsman is to lay the groundwork for the reservists' arrival so working and training can begin without delay.

The established guide for Naval Reserve center medical department personnel defines duties and responsibilities for the hospital corpsman serving independently in the Reserve center (Manual of the Medical Department, Chapter 9). Local duties include conducting daily

*HM2 Roger Blair is stationed at the Naval Reserve Center, Augusta, ME. As a Reserve center corpsman, his duties include: maintaining the health records of his reservists . . .*

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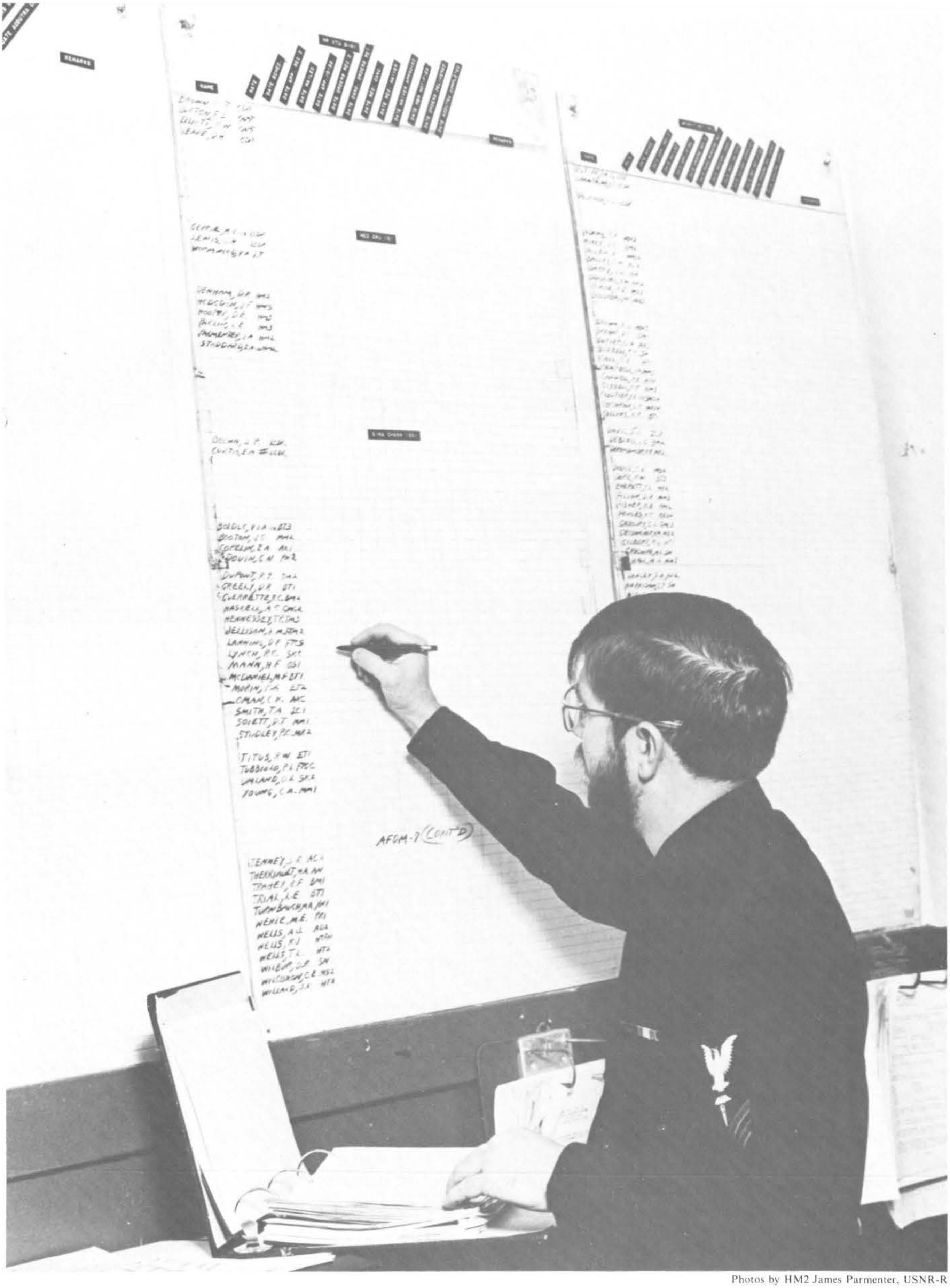

Photos by HM2 James Parmenter, USNR-R

*. . . checking personnel eligibility for ACDUTRA . . .*

sick call, technical supervision of subordinate hospital personnel, and maintaining medical spaces, supplies, and equipment. The corpsman is responsible for coordinating preventive medicine programs, insuring proper sanitation, and recommending to the commanding officer a schedule for teaching first aid to all hands. He must be prepared to render emergency medical care at all times and assist medical officers in the performance of physical examinations.

Administrative responsibilities include maintaining the medical journal, recording physical examinations and immunizations, giving first aid and first aid training lectures to station-keepers and Reserve hospital corpsmen, conducting sanitation inspections, providing health benefits counseling, and visiting active duty military personnel hospitalized in civilian health care facilities. The Reserve center corpsman must keep on hand medical textbooks as per reference BUMEDINST 6820.4 and 6020.3 and either have all appropriate Navy directives or have access to them. The corpsman has to insure that all active duty for training (ACDUTRA) applications are routed through the medical department representatives so that physical examinations and immunizations can be updated before forwarding a request to the Readiness Command and to the Chief of Naval Reserves.

There are other areas a Reserve center corpsman must be familiar with —private medical and dental treatment procedures, when it is authorized and where it is available; submission, adjudication, and payment of claims; and the Navy's decedent affairs procedure.

Making casualty assistance calls is another area where proficiency is required. Who makes the call, what is said, and to whom are, in part, the corpsman's responsibility. Fleet corpsmen who may have dealt with death and dying on an individual basis must now, as Reserve center corpsmen, be prepared to deal with that individual's family.

Line of duty investigations, often found at sea, also appear in the Reserve center as well. Rather than investigating a limited number of cases in a confined setting aboard ship, the corpsman must sometimes venture out into the civilian community to seek the aid and guidance of nonmilitary experts. He should have access to advice from a nearby JAG office.

The problem and administrative details dealing with the physically unqualified reservist is a separate command responsibility. The Reserve center corpsman must know where to seek advice and guidance and when to submit a NPQ (not physically qualified) case to the Naval Medical Command, Washington, DC. Because of the short supply of Reserve physicians available for duty, contract physicians are often required. It is important to know their responsibilities, their fees, and how much one can ask of them. Should either the station duty corpsman or the individual disagree with the physician's findings, the corpsman must be familiar with the next level of appeal.

Medical resupply is an ongoing problem at sea or ashore. Medical supplies for the local center are requisitioned via the center's commanding officer and are paid for by funds allocated for the medical department. However, medical supply also means working with the stationkeeper supply personnel to provide necessary gear for the Reserve medical personnel who support the Marines in the field, i.e., utilities, boots, etc.

The Reserve center corpsman must deal with mobilization assignment sites and assist in training. He should be able to share his own experience and provide instructions and training materials for weekend away training exercises. He must be familiar with the Readiness Command's choices of active duty for training assignments and the procedures for completing ACDUTRA applications.

*. . . and insuring that his reservists' first aid training is kept up to date.*

Lastly, the Reserve center corpsman should understand CHAMPUS and the concept of insured medical care for the military individual and his family. The CHAMPUS program is a major factor for all involved and the Reserve center corpsman can be a critical factor.

Although there are many similarities between the fleet corpsman and the active duty support corpsman serving in the Reserve center, the job of the latter can be far more complex in scope and responsibility. Often working independently and dealing with a wide range of unique situations, the active duty support corpsman must be prepared to do it all. ☐

## Notes & Announcements

### SRB PROGRAM

NAVOP 107/82 announces the FY83 Selective Reenlistment Bonus (SRB) Program. The following HM NEC's and FY83 award level plan is effective 1 Nov 1982.

| Rating/NEC | | Zone A | Zone B | Zone C |
|---|---|---|---|---|
| HM | 8402 | 0 | 3 | 0 |
| | 8406 | 1 | 0 | 0 |
| | 8432 | 1 | 1 | 0 |
| New NEC | 8445 | 1 | 0 | 0 |
| | 8452 | 1 | 0 | 0 |
| New NEC | 8478 | 0 | 1 | 0 |
| New NEC | 8482 | 1 | 1 | 0 |
| | 8492 | 5 | 5 | 0 |
| | 8493 | 5 | 5 | 0 |
| | 8506 | 1 | 0 | 0 |

Eligible personnel should consult NAVOP 107/82 for specific information concerning reenlistment/extension and payment authority. The Command Retention Team is requested to provide the widest dissemination of this NAVOP. Career Counselors should actively counsel prospective candidates eligible for the SRB program.

### HSETC CORRESPONDENCE COURSES

Three new correspondence courses are now available to Medical Department officers and enlisted personnel through the Naval Health Sciences Education and Training Command (HSETC).

- Food Service Sanitation, NAVEDTRA 10521: Addresses the regulations and procedures for the procurement, storage, preparation, serving and disposition of food, and the inspection of food service facilities. Text: *Food Service Sanitation Manual,* DHEW, 1976. Consists of two assignments and evaluated at four points.
- Clinical Aspects of Cold Weather, NAVEDTRA 10519: Explores the epidemiology of cold injuries and other common conditions occurring during cold environment deployments. Emphasis is placed on host and environmental factors subjecting humans to cold injuries. The signs, symptoms, treatment, and prevention of specific freezing and nonfreezing injuries are addressed. Text: *Clinical Aspects of Cold Weather Operations,* NHSETC, 1982. Consists of two assignments and evaluated at four points.
- Environmental Health and Safety "A," NAVEDTRA 10523: The first of a two-part nonresident program designed to examine the impact of food production and technology, insect and rodent control, and domestic and institutional environments on the ecosystem and subsequent health maintenance. Text: Koren H, *Handbook of Environmental Health and Safety,* Pergamon Press, 1980, vol 1. Consists of four assignments and evaluated at eight points.

Requests for enrollment should be forwarded on NAVEDTRA 1550/1 to Commanding Officer, Naval Health Sciences Education and Training Command, Correspondence Course Training (Code 212), Naval Medical Command, National Capital Region, Bethesda, MD 20814.

### DENTAL CORRESPONDENCE COURSE REVISED

Fixed Partial Denture Prosthodontics (NAVEDTRA 10410-B) is a newly revised correspondence course for dental officers prepared by the National Naval Dental Center, Bethesda, MD.

The course is based on the text *Fundamentals of Fixed Prosthodontics,* ed. 2, by Herbert T. Shillingburg, Jr., Sumiya Hobo, and Lowell D. Whitsett, published by the Quintessence Publishing Co., Inc., Chicago, 1981. The objective of this six-assignment course is to provide the general practitioner with a review and update of fixed prosthodontic therapy, including fixed bridges, cast restorations, and porcelain-fused-to-metal restorations. The fundamentals of treatment planning, occlusion, and tooth preparation are treated in conjunction with these subject areas.

Naval Reserve credit is evaluated at 12 points. Dental officers who completed the earlier edition may enroll in the revised course for additional credit.

For more information write Commanding Officer (Code 411A), National Naval Dental Center, Bethesda, MD 20814.

### CORRECTION

In *U.S. Navy Medicine*, September 1982, page 30, A Case of Capgras Syndrome, the biographical data on co-author Dr. William Howell was not current. LT Howell is presently Officer in Charge, Neuropsychiatric Unit, Marine Corps Recruit Depot, Parris Island, SC 29902.

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